

AMENDMENTS TO AND LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A drive system for imparting motion to a treating implement having a head, the head including a treating instrument that is separately moveable from the head and having implement elements, the drive system comprising:

a motor, said motor having a rotatable motor shaft;

a cam rotatably driven around an axis of rotation by said motor shaft, said cam having an outer surface with a closed loop cam track having an inner wall and an outer wall and being eccentric to said axis of rotation;

a treating implement head remote from said cam;

a control member having a control slot extending completely therethrough;

a pivot member located between said control member and said treating implement head, said pivot member having a through hole, said treatment implement head having a drive connection mounted to said treating implement and disposed toward said pivot member;

a drive shaft having a longitudinal axis and a drive end and a driven end, the drive end and the driven end being coaxial along the longitudinal axis, said drive end being freely mounted in said cam track, said drive shaft extending through said control slot and through said hole in said pivot member, said driven end being operatively mounted to said drive connection of said implement head to cause said treating instrument to move, independently of the head, in response to movement of said drive shaft,

said longitudinal axis of said drive shaft being disposed along an axis which differs from and is different from and at an angle to said cam axis of rotation,

said control slot controlling the path of movement of said drive shaft whereby rotation of said cam causes said drive end to slide along said inner wall and said outer wall of said cam track in response to the location of said drive shaft in said control slot with said drive shaft pivotally moving through said pivot member as said drive end slides along said inner wall and said outer wall of said cam track while said drive shaft slidably moves in said control slot to transmit the pivotal movement of said drive shaft to said drive end and to said drive connection for moving said treating instrument.

2. (Previously Presented) The drive system of claim 1 wherein said control slot is of straight linear shape to cause said drive shaft to move planarly.

3. (Original) The drive system of claim 2 wherein said cam track is circular.

4. (Original) The drive system of claim 2 wherein said cam track is non-circular.

5. (Original) The drive system of claim 4 wherein said cam track is oval.

6. (Original) The drive system of claim 2 wherein said control slot extends radially from said axis of rotation.

7. (Original) The drive system of claim 1 wherein said control slot is of non-straight linear shape.

8. (Original) The drive system of claim 7 wherein said control slot is of arcuate shape.

9. (Original) The drive system of claim 1 wherein said cam track does not extend beyond said axis of rotation.
10. (Original) The drive system of claim 1 wherein said drive connection includes a slot in a portion of said treating implement head, and said driven end of said drive shaft terminates in a ball mounted in said implement head slot.
11. (Original) The drive system of claim 1 wherein said drive shaft extends through a flexible bearing in said through hole of said pivot member.
12. (Original) The drive system of claim 1 wherein said treating implement is a toothbrush, said head being a cleaning head having an outer surface, said treating elements being cleaning elements extending outwardly from said outer surface and located on at least a portion of said head, and said drive connection being a slot in said portion of said head.
13. (Original) The drive system of claim 12 wherein said control slot is of straight linear shape parallel to said outer surface of said head.
14. (Original) The drive system of claim 13 wherein said cam track is circular.
15. (Original) The drive system of claim 14 wherein said pivot member is a thin plate, and said control member is a thin disk.
16. (Original) The drive system of claim 15 wherein said control slot extends radially from said axis of rotation, and said cam track does not extend beyond said axis of rotation.

17. (Previously Presented) The drive system of claim 16 wherein said treating instrument is oscillated back and forth over a range no greater than 30 degrees.

18. (Original) The drive system of claim 12 is of straight linear shape at an angle which is non-parallel to said outer surface of said head.

19. (Currently Amended) A drive system for imparting motion to a treating instrument on a treating implement, comprising:

a head having the treating instrument rotatably mounted thereon, wherein the treating instrument moves independently of the head;

a plurality of implement elements mounted to the treating element;

a motor having a rotatable motor shaft, a cam rotatably driven around an axis of rotation by said motor shaft, said cam having an outer surface with a closed loop cam track having an inner wall and an outer wall and being eccentric to said axis of rotation;

a control member having a control slot extending completely therethrough;

a pivot member located between said control member and said head, said pivot member having a through hole, wherein said head has a drive connection mounted to said treating instrument and disposed toward said pivot member;

a drive shaft having a longitudinal axis and a drive end and a driven end, the drive end and the driven end being coaxial along the longitudinal axis, said drive end being freely mounted in said cam track, said driven end being operatively mounted to said drive connection of said head to cause said treating instrument to move in response to movement of said drive shaft, said longitudinal axis of said drive shaft being disposed along an axis which differs from and is different from and at an angle to said cam axis of rotation, said control slot controlling the path of movement of said drive shaft whereby rotation of said cam causes said drive end to slide along said cam track in response to the location of said drive shaft in said control slot with said drive shaft pivotally moving through said pivot member as

said drive end slides along said inner wall and said outer wall of said cam track while said drive shaft slidably moves in said control slot to transmit the pivotal movement of said drive shaft to said drive end and to said drive connection for moving at least a portion of said treating instrument.

20. (Previously Presented) The drive system of claim 19, wherein the movement of the treating instrument is an oscillatory, rotational movement.